

REMARKS

Claims 1-8, 11-19, 44, 46-48, 50, 51 and 56 remain in this application. Claims 45 and 49 have been cancelled. Claims 1, 8, 44 and 50 have been amended. Claim 56 has been added. Claims 1, 44 and 56 are independent claims.

A. Withdrawal of Claims

In the Office action October 19, 2005, it was noted that claims 9, 10 and 20 were inadvertently included within Group I of an election requirement. It was asserted that claims 9, 10 and 20 should have been within one of the non-elected Groups. Accordingly, the Office action stated that the three claims are withdrawn from consideration.

B. Rejection in View of the Prior Art

Claims 1, 3-16, 11, 12, 44 and 46-48 were rejected under 35 U.S.C. 102(b) as allegedly being anticipated by Nielsen et al. Additionally, claims 1, 2, 13-17, 44, 45, 49 and 50 were rejected under 35 U.S.C. 102(b) as allegedly being anticipated by Ando. Finally, claims 7, 8, 18, 19 and 51 were rejected under 35 U.S.C. 103(a) as allegedly being anticipated over Nielsen et al.

In response to the rejections, independent claims 1 and 44 have been amended to more clearly distinguish the claimed invention from the cited prior art. Moreover, independent claim 56 has been added. Amended claim 1 now describes the controller as including a control algorithm which adaptively adjusts the "first time period" for switching the power state of the device, wherein the adaptive adjusting is based on factors that include historical data of occurrences of switching by the controller. Dependent claim 8 states that the control algorithm adaptively increases the first time period on the basis of the historical data indicating repeated occurrences of switching by the controller. Support for the amendment to claim 1 may be found in original claim 8 and in paragraph [0025] of the application as originally filed. Claim 1 merely merges original claims 1 and 8. Paragraph [0025] provides description of the example in which, if a person is repeatedly leaving from and returning to a room for a time slightly longer than the first time period, the algorithm may

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increase the length of the first time period in order to reduce unnecessary cycling between power states. Reconsideration of amended claim 1 and amended claim 8 is requested.

Independent claim 44 now describes the method of controlling the device as including both the implementation of passive control and the implementation of active control. The passive control is based upon the passage of time and on the detection of an eye, while the active control is based upon recognizing eye blinking patterns and correlating each pattern to a command for varying an operational parameter of the device. Support for the amendment may be found in the combination of claims 44 and 49 as originally filed. Moreover, in paragraph [0006] of the application, it is stated that providing control may be based upon either or both of merely detecting the presence or absence of an eye and detecting eye activity.

Claim 56 describes the imager of the control system as being sampled in a non-continuous basis, with the sampling frequency being selected to conserve battery charge. Support for the amendment may be found in claim 19 as originally filed, since claim 56 is a combination of original claims 1 and 19. Support may also be found in paragraph [0034] of the application as originally filed.

Reconsideration of the pending claims in view of the amendments and in view of the remarks that follow is respectfully requested.

C. Changes to the Specification

The portion of the application entitled "Summary of the Invention" has been amended to be consistent with the changes to the claims. Paragraph [0006] has been amended to include the feature described in amended independent claim 44. Paragraph [0007] has been amended to be consistent with the description of the invention as found in amended claim 1.

Since the description added to these two paragraphs may be found in the original claims and in other portions of the application, Applicants submit that no new matter has been added. It is requested that the amendments to paragraphs [0006] and [0007] be entered.

D. Teachings of Nielsen et al. and Ando

With respect to original claims 1 and 44, Fig. 2B of Nielsen et al. was cited as being significant. Fig. 2B is a block diagram of the internal hardware of the computer of Fig. 2A. The hardware includes an eyetracker (290). Fig. 6 of the Nielsen et al. patent shows a flowchart of one power control process in accordance with the invention. The eyetracker is used to control the intensity of the illumination of images on the computer display (220). The outputs of the eyetracker are processed to distinguish four conditions, namely (1) whether the eyes are fixed at a point on the display, (2) whether the eyes move off the display, (3) whether the eyes are approaching the display from a position off the display, and (4) whether the eyes are moving across the display.

As described in column 6 of Nielsen et al., when the eyes of the person move off the display (case number 2), the screen will begin to fade in intensity after a short time interval, preferably, one tenth of a second. If the eyes do not return to the display, the screen will fade to black. However, when the eyes approach the screen, the screen returns to normal illumination.

Turning to Ando, Figs. 1a, 1b and 1c were cited as showing an imager (3) and eye detection processing. Ando describes an apparatus for commanding energization of an electrical device. The invention is described primarily with respect to devices within a car. Columns 5-7 of the patent provide examples. A radio controller (20) may be designed to turn a radio "on" and "off" and designed to increase or decrease volume of the radio. Other devices which may be controlled include the air conditioner, door locks, the sunroof, windows, wipers, speed, and headlights. The driver may control the different devices using either the status of the eyes or the status of the mouth. As described in column 2, lines 55-65 of Ando, the image signal processing means detects a change in the status of the eyes or mouth of the driver as a time sequence, supplying an energization controlling signal to the electrical device to be controlled.

E. Section 102(b) Rejection in View of Nielsen et al.

To briefly state the standard, rejections under Section 102 are supported only if a single prior art reference describes or inherently contains

all of the features of a claim, so that there are no material differences. In re Marshall, 198 USPQ 344 (CCPA 1978).

As previously noted, claim 1 has been amended to incorporate the subject matter of original claim 8. Thus, claim 1 now describes the controller as including a control algorithm which adaptively adjusts the first time period on the basis of factors that include historical data. The Office action does not assert that this feature is anticipated by Nielsen et al. Consequently, Applicants respectfully submit that the amendment to claim 1 overcomes the rejection of the claim under Section 102(b).

Similarly, the Office action did not assert that original claim 19 was anticipated by Nielsen et al. Since added claim 56 is a combination of original claims 1 and 19, Applicants assert that the claim is not anticipated by the prior art patent to Nielsen et al.

Amended claim 44 includes description of both the passive control feature and the active control feature. Nielsen et al. was not cited for teaching the steps of recognizing predetermined eye blinking patterns and correlating each pattern to a command for varying an operational parameter of a device. Since these steps are now contained within the independent method claim, the claim is not anticipated by Nielsen et al.

Applicants respectfully assert that in view of the amendments to the claims, the rejection of claims as being anticipated by Nielsen et al. has been overcome.

F. Section 102(b) Rejection in View of Ando

In the Office action, it was not asserted that Ando anticipates the combination of original claims 1 and 8. Consequently, the amendment to claim 1 to include the subject matter of claim 8 overcomes the Section 102(b) rejection. In like manner, the combination of original claims 1 and 19 to form added claim 56 is not at issue with regard to Section 102(b), since original claim 19 was not rejected as allegedly being anticipated by the prior art patent.

With regard to independent claim 44, the passive control of the controlled device is now described as being one in which switching among power consumption states is on the basis of both a first conditional response and a second conditional response. Prior to the amendment, claim 44 stated that the switching was on the basis of at least one of the two conditional

responses. Therefore, a *prima facie* case of obviousness with regard to the original claim could be satisfied by showing that a prior art reference included one (but not necessarily both) of the conditional responses. It was not asserted in the Office action that Ando teaches or suggests switching among power consumption states on the basis of the first conditional response, which results in the controlled device being switched from a power-up state to a lower power consumption state upon passage of a first time period without detecting an eye. The amendment to claim 44 places this conditional response at issue with regard to the satisfaction of presenting a *prima facie* case of anticipation.

In the rejection of original claim 44, portions of columns 2 and 5 of Ando were cited, while in the rejection of claim 49, columns 14-16 were cited. In column 2, the cited portion (lines 4-15) merely states that the camera means converts optical information from an eye image into an electrical signal. Image signal processing detects the location of a particular area within the image. An object or a person is observed by the camera means and the location of a particular area, such as the pupil or mouth of the driver, is detected. Clearly, this does not anticipate amended claim 44, which includes all of (1) power lowering on the basis of time, (2) power-up on the basis of eye detection, and (3) variations of an operational parameter of a device based upon recognition of blinking patterns.

In the cited portion of column 5 (lines 2-34) of Ando, the reference is to blinking patterns. Column 5 does not describe the implementation of the passive device control set forth in amended claim 44. Columns 14-16 are consistent in teaching detections of eye blinking patterns, rather than the implementation of the passive control described in claim 44, which includes both timing and "presence" detection. Columns 14-16 of Ando refer to timing considerations, but they are with respect to detecting blinking patterns and do not satisfy the "first conditional response" relevant to the implementation of the passive control of the device.

Applicants respectfully submit that the amendments to the claims place the claims in a condition in which there are material differences between the claimed invention and the teachings of Ando, so that Ando does not anticipate the claims at issue.

G. Rejection of the Claims under Section 103(a)

While claims 8 and 19 were not rejected under Section 102(b), the Office action asserted that the two claims were unpatentable over Nielsen et al. under Section 103(a). With regard to claim 8, it was asserted that Nielsen et al. discloses in column 6, lines 40-46 that a first time period may be set by the user. Applicants respectfully point out that this section of the Nielsen et al. patent merely refers to a preference of the time interval. That is, the patent does not state that the first time period is set by a user, where "set" would be synonymous with "adjust." The interaction with the operations by the user is one in which the user directs his or her sight. When the eyes of the user move from the screen to a point off the screen, the patent states that the time interval is "set." However, a person of ordinary skill in the art would not determine that this reference to "setting" allows the user to determine the length of the time interval. That is, persons skilled in the art would not interpret lines 40-46 in column 6 to understand that the eyes of a person can be used to provide programming. The eyes of a person are not used to select within a range of times. Rather, the Nielsen et al. patent repeatedly uses the term "set" to indicate that the timing begins. Applicants assert that lines 40-46 in column 6 state that when the eyes of the user move from the screen, the timing begins, so that if the time expires without the eyes returning to the screen, the screen will slowly fade the display intensity to black.

Even if lines 40-46 in column 6 of Nielsen et al. taught that the eyes of a person could be used to adjust a time period, the patent would not render claim 1 obvious under Section 103(a). There is no teaching or suggestion in Nielsen et al. that adaptive adjustments of the time period should be made on the basis of factors that include historical data of occurrences of switching. Without the aid of Applicants' specification, a person of ordinary skill in the art would not be motivated to provide the feature of claim 1, as amended. Moreover, Ando does not teach or suggest this feature, so that the combination of the two patents does not present a *prima facie* case of obviousness.

Amended claim 8 now states that the control algorithm of the controller adaptively increases the first time period on the basis of historical data indicating repeated occurrences of switching by the controller. This is neither taught nor suggested by the prior art.

Original claim 19 describes the imager as being sampled in a non-continuous basis, with the sampling frequency selected to conserve battery charge. This feature has been incorporated into added claim 56. In rejecting original claim 19, it was merely stated in the Office action that the specific configuration of sampling by an imager is well known and would have been obvious to one of ordinary skill in the art in view of achieving a desired performance. Applicants point out that the non-continuous sampling of claims 19 and 56 does not aid in achieving the desired performance with respect to controlling the device. Rather, the non-continuous sampling feature is related to conserving battery charge. More importantly, Nielsen et al. teaches that the preferred time interval for its operations is one tenth of a second (column 6, lines 40-46). The briefness of this preferred time interval leads away from Applicants' claimed invention. While Applicants recognize that the teachings of a prior art reference may be modified in the determination of obviousness under Section 103(a), the modifications must be suggested or motivated by a prior art reference. In re Mills, 16 USPQ2d 1430 (Fed. Cir. 1990). Since Nielsen et al. teaches a time period of one tenth of a second, the patent teaches away from the claimed invention, rather than providing motivation for the claimed invention. Thus, it would not be obvious to modify Nielsen et al. in view of any teachings of Ando and would not be obvious to modify Ando in view of the teachings of Nielsen et al., such that a modification would include the features of claim 56.

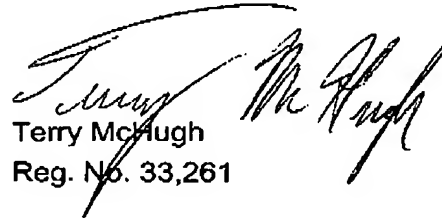
The patentability of amended claim 44 in view of Ando has been addressed above. Regarding Nielsen et al., nothing within the prior art reference teaches or suggests a method of controlling a device that includes all of (1) time-based powering down of the device, (2) powering up the device on the basis of detection of an eye, and (3) varying an operational parameter of the device based upon recognition of an eye blinking pattern. With respect to the eyetracker of Nielsen et al., the intensity of a screen may be reduced when the eyes of the user are directed from the screen. The patent briefly teaches that power to the eyetracker may be removed when the user has not looked at the display for a predetermined period of time. However, there is no teaching or suggestion within the patent or the combination of Nielsen et al. and Ando that a method of controlling the device should include all of the three aspects described in amended claim 44. Therefore, Applicants assert that the amended claim is patentably distinguished from the cited prior art.

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Applicants respectfully request reconsideration of the claims in view of the amendments and remarks made herein. A notice of allowance is earnestly solicited. In the case that any issues regarding this application can be resolved expeditiously via a telephone conversation, Applicants invite the Examiner to call Terry McHugh at (650) 969-8458.

Respectfully submitted,



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